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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,984	06/20/2003	Kurt R. Carlson	NGC-140/000047-199	7137

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EXAMINER	
ZEMEL, IRINA SOPJIA	

ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/600,984	CARLSON ET AL.	
	Examiner	Art Unit	
	Irina S. Zemel	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) *7-13, 16-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6, 14 and 21-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/24/05; 6/20/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse 11-3-2005 is acknowledged.

Claims 7-13 and 16-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention/species, there being no allowable generic or linking claim.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-6, 14-15 and 21-23 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-41 of U.S. Patent No. 6,980,709. Although the conflicting claims are not identical, they are not patentably distinct from each other because practicing the method claimed in the instant application will necessarily result in the apparatus claimed in claims 1-28 of the

referenced patent. Moreover, the claimed method of the instant application is broader and fully encompassing the process of claims 29-41 (with the step of introducing voids being inherent step of making any polymeric material having voids).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-6, 14-15 and 21-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification provides no information as to what polymeric materials, coupling agents and hallow microballoons may be used for the invention .

If applicants believe that the one of ordinary skill in the art would know the types of polymeric and other claimed materials suitable for the encapsulating of fiber optic sensing coils i.e., in other word, that the difference between what is known in the art and the claimed invention lies only in the use of polymeric material having voids in it, the applicants are requested to either acknowledge it in the record or provide evidence that materials/application methods are known in the art.

Claims 1-6, and14-15 rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for methods employing fiber optics as tress sensitive

components, does not reasonably provide enablement for methods employing any other stress sensitive components. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, how to make the invention commensurate in scope with these claims. While, as discussed above, the specification reasonable enables for buffering of sensor fibers (although without provide=ing any information regarding materials used and methods of application of the materials as discussed above), the specification does not enable for bufferting of any other stress sensitive components. The claims are so broad as they read on packaging of any fragile consumer goods in a carton package when the goods are first surrounded with a polymeric foamed materisl. It would clearly require undue experimentation to determine what embodiments fall within the scope of the claimed invention given its broadest reasonable interpretation. As concerns the breadth of a claim relevant to enablement, the only relevant concern should be whether the scope of enablement provided to one skilled in the art by the disclosure is commensurate with the scope of protection sought by the claims. >*AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1244, 68 USPQ2d 1280, 1287 (Fed. Cir. 2003.) The record must be clear so that the public will have notice as to the patentee's scope of protection when the patent issues. Limitations and examples in the specification do not generally limit what is covered by the claims. See MPEP 2164.08.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,745,627 to Arroyo et al., (hereinafter "Arroyo").

Arroyo discloses a cable comprising a central conductor (14) (stress sensitive component) buffered with a foamed polymeric material. Making the foam polymeric material inherently includes a step of introduction of plurality of voids in a polymeric material (in the instant case – polyester). See, for example, figure 2. Also, surrounding the stress sensitive components (14) with the polymeric material inherently includes the step of accommodating through compression of the foam voids of any movements that may be made by the stress sensitive component, since the component is directly surrounded by the foam. It also inherently meet the limitations of claim 15, since the limitations of claims 2 and 15 recite no more that inherent function of a polymeric foam that is normally can be compressed by applying a force through a compression of the cells (voids), and the compressed foam does not expand back.

The invention as claimed, thus, is fully anticipated by the disclosure of the reference.

Claims 1-3 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by WO99/36820 to SUN Microsystems Inc., (hereinafter "SUN").

Sun discloses a fiber optic bundle 11 (pressure sensitive component) surrounded with foamed polymeric material 12. As discussed above, making the foamed polymeric material and encapsulating of closely surrounding of the pressure sensitive components with polymeric foam inherently meets the limitations of claims 1-3 and 15.

The invention as claimed, thus, is fully anticipated by the disclosure of the SUN reference.

Claims 1-4, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 660082 to Andrew A.G..

Andrew A.G. discloses a method of surrounding fiber optic gyroscope with gel. The coil is made from epoxy resin (polymeric material) having filler dispersed within the gel. Among suitable fillers, hallow microballons are expressly disclosed throughout the specification, for example in column 8, line 32. Introduction of hallow filler into polymeric resin inherently introduces voids in the polymer. The coil 10 of the gyroscope is submerged within the gel 11, (see column 5 and figures 2 and 3c). Thus, the disclosed embodiments inherently satisfy all of the limitations of claims 1-4 and 14-15. (see also discussion above). The invention as claimed, thus, fully anticipated by the disclosure of SUN.

Claims 1-3 and 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by EO 752603 to W.L. gore and Associates (hereinafter "W.L. Gore").

W.L. Gore discloses a fiber core (pressure sensitive component) surrounded with foamed polymeric material 12. The reference further expressly discloses application of the foamed polymers in the form of tapes. As discussed above, making the foamed

polymeric material and encapsulating of closely surrounding of the pressure sensitive components with polymeric foam inherently meets the limitations of claims 1-3 and 14-15.

The invention as claimed, thus, is fully anticipated by the disclosure of the W.L. Gore reference.

Claim Rejections - 35 USC § 102/103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 21-23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Andrew AG.

The disclosure of Sun is discussed above. The reference expressly discloses submerging the optical coil within the gel, which, is reasonable believed will results in at least some of the flowable gel to penetrate between the coiled fibers, thus introducing voids between the parts of stress sensitive component, which will inherently met the limitations of claims 21-23. The burden is shifted to the applicants to provide factual evidence to the contrary.

Claim Rejections - 35 USC § 103

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrew A.G. in combination with US 5,706,175 to Takei.

Th disclosure of SUN is discussed above. While SUN expresslu discloses addition of hallow microspheres to epoxy resin gels, the reference does not specifically discloses the composition of the microballoons, thus implying that any microballons commonly used in epoxy resins are suitable for the invention. Polymeric gas containing microabllons, such as those available under the tradename Expancel (available with or without adhesive promotes), are notoriously known in the art as fillers for epoxy-based resins that are added to the resin in order to improve heat thermal expansion properties of the resins (and to modify other properties of epoxy resin). See, for example, Takei, column 4, lines 12-27. Thus, choosing the claimed polymeric microballons as hallow microballon filler for the invention disclosed by Sun would have been obvious in view of known function of such polymeric microballons as fillers for epoxy resins absent showing of unexpected results.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Irina S. Zemel
Examiner
Art Unit 1711

ISZ